

ABSTRACT OF THE DISCLOSURE

A modular capillary pump loop (CPL) cooling system and associated components.

The modular CPL cooling system transfers heat from high-power circuit components, such as  
5 microprocessors disposed within computer chassis, to other locations within or external to the

chassis, where the heat can be more easily removed. In various embodiments, the CPL  
cooling system includes one or more evaporators connected to one or more condensers via  
flexible liquid transport and vapor transport lines. A wicking structure, such as a volume of  
sintered copper, is disposed within each condenser. The wicking structure draws working

10 fluid (e.g., water) in a liquid state into the evaporator based on a capillary mechanism and a  
pressure differential across a meniscus/vapor interface on an upper surface of the wicking  
structure. As the liquid meniscus is evaporated, additional fluid is drawn into the evaporator.  
The working fluid is then condensed back into a liquid in the condenser.